Amendments to the Claims

Kindly amend claims 1-4 and 7, as set forth below. In compliance with the Revised Amendment Format published in the Official Gazette on February 25, 2003, a complete listing of claims is provided herein.

1.   (Currently Amended) A method for providing reliable communication in a system of directly connected data processing nodes, said method comprising:

detecting a failure of ~~at least one~~a node ~~or a communication link in said system~~or a failure of connectivity to the node (failed node) using a heartbeat signal provided over a separate path to indicate to one or more other ~~ones of said~~ nodes in said system ~~that said at least one of said nodes or said communication link is not functioning~~ the failure;

establishing, at one of said one or more other nodes, an instance identifier associated with said failure, said instance identifier indicating that communications of the failed node are to be discarded;

sending notification of said failure, including said instance identifier, to said one or more other nodes having existing ~~communication~~ communications ~~links~~ with said ~~at least one~~ failed node; and

terminating, at said one or more notified nodes, pending ~~communication~~ communications ~~links~~ that involve said ~~at least one~~ failed node, said termination being carried out in response to said notification.

2.   (Currently Amended) The method of claim 1 further including the step of detecting that said ~~at least one~~ failed node is no longer in a failed state and resuming communications with that node using an incremented value for said instance identifier.

3.   (Currently Amended) The method of claim 2 further including the step of resuming communications with said one or more other nodes using said incremented instance identifier.

4.   (Currently Amended) A data processing system comprising:

a plurality of interconnected data processing nodes;

heartbeat signal generators within each said node for providing a signal over a separate path to ~~others~~ one or more other nodes of said nodes indicative of node failure status;

heartbeat signal detectors within said nodes for indicating that a certain node has failed (failed node);

a first program within said one or more other nodes for establishing an instance identifier associated with each node failure and for transmitting notification of said failure and said instance identifier to nonfailed nodes, said instance identifier indicating that communications of the failed node are to be discarded; and

a second program within said nodes for terminating, at said notified nodes, pending ~~communication links~~ communication that involve said ~~at least one~~ failed node, said termination being carried out in response to said notification.

5.	(Original) The data processing system of claim 4 in which said heartbeat signal detectors also provide an indication that a failed node has returned to functioning status.

6.	(Original) The data processing system of claim 5 further comprising a third program within said nodes which resumes communication with nodes that have returned to functioning status, said communication including transmission of a new instance identifier.

7.	(Currently Amended) A computer program product comprising a computer readable medium on which is stored program means for:

detecting a failure of a node or a failure of connectivity to the node (failed node)~~nodes or communication links, in a system of directly connected data processing nodes~~, using a heartbeat signal provided over a separate path to indicate to one or more other ~~said~~ nodes ~~that at least one of said nodes or said communication links are functioning or have failed~~ the failure;

establishing an instance identifier associated with said failure, said instance identifier indicating that communications of the failed node are to be discarded;

sending notification of said failure, including said instance identifier, to said one or more other nodes having existing ~~communication links~~communications with said ~~at least one~~ failed node; and

terminating, at said one or more notified nodes, pending ~~communication links~~communications that involve said ~~at least one~~ failed node, said termination being carried out in response to said notification.

8.   (Previously Presented) The method of claim 1, wherein said instance identifier provides an indication that a failure event has occurred.

9.   (Previously Presented) The data processing system of claim 4, wherein said instance identifier provides an indication that a failure event has occurred.

10.   (Previously Presented) The computer program product of claim 7, wherein said instance identifier provides an indication that a failure event has occurred.